

CLAIMS

1. A method of producing an elliptically polarizing plate comprising the steps of:

forming a first birefringent layer on a surface of a transparent protective film (T);

laminating a polarizer on a surface of the transparent protective film (T); and

forming a second birefringent layer by laminating a polymer film on a surface of the first birefringent layer, wherein:

the first birefringent layer and the polarizer are arranged on opposite sides of the transparent protective film (T);

the step of forming a first birefringent layer comprises the steps of:

applying an application liquid containing a liquid crystal material to a substrate subjected to alignment treatment;

forming a first birefringent layer on the substrate by treating the applied liquid crystal material at a temperature at which the liquid crystal material exhibits a liquid crystal phase; and

transferring the first birefringent layer formed on the substrate to a surface of the transparent protective film (T); and

angles α and β satisfy a relationship represented by the following expression (1):

$$2\alpha+40^\circ < \beta < 2\alpha+50^\circ \quad \cdots (1)$$

where, α represents an angle formed between a slow axis of the polarizer and a slow axis of the first birefringent layer, and β represents an angle formed between the absorption axis of the polarizer and a slow axis of the second birefringent layer.

2. The method according to claim 1, wherein:

the polarizer, the transparent protective film (T), the first birefringent layer formed on the substrate, and the polymer film used for forming the second birefringent layer are each a continuous film;

long sides of the polarizer, the transparent protective film (T), and the first birefringent layer formed on the substrate are continuously attached together to form a laminate including the polarizer, the transparent protective film (T), the first birefringent layer, and the substrate in the stated order;

the substrate is peeled off from the laminate; and

long sides of the laminate having the substrate peeled off and the polymer film used for forming the second birefringent layer are continuously attached together.

3. The method according to claim 1 or 2, wherein the liquid crystal material comprises at least one of a liquid crystal monomer and a liquid crystal polymer.

4. The method according to any one of claims 1 to 3, wherein the first birefringent layer comprises a $\lambda/2$ plate.
5. The method according to any one of claims 1 to 4, wherein the second birefringent layer comprises a $\lambda/4$ plate.
6. The method according to any one of claims 1 to 5, wherein the substrate comprises a polyethylene terephthalate film.
7. The method according to any one of claims 1 to 6, wherein the polymer film comprises a stretched film.
8. An elliptically polarizing plate, which is produced through the method according to any one of claims 1 to 7.
9. An image display apparatus, which comprises the elliptically polarizing plate according to claim 8.